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10/542,225	07/14/2005	Kenji Kono	81887.0128	3354

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EXAMINER
HO, HUY C

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
08/27/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/542,225	KONO, KENJI	
	Examiner	Art Unit	
	HUY C. HO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01/23/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 04/30/2009, with respect to claims 14-18 (new) have been considered but are moot in view of the new ground(s) of rejection. Amended claims 1, 7 have been fully considered but they are moot and not persuasive because the argue features, i.e., determination if the handoff has occurred in a predetermined repetition pattern then the determination section changes the criterion of the determination of the handoff, read upon Shi in view of Andrus because Shi teaches and discloses method and system for preventing unnecessary idle handoffs that are initiated when a received signal strength of a pilot signal drops quickly to a small value relative to another pilot signal, the system determines whether the sum of the difference between the total strengths of consecutive pilot signals less than a predetermined designed parameter then the handoff is initiated from a base station to another base station (see Shi, col 6 lines 15-45), thus disclosing a very slight deviation of signal strength of the pilot signals that may cause the unnecessary handoff. Andrus teaches and discloses system and method for avoiding unnecessary idle handoff caused by repetition pattern and therefore making appropriate decision for the handoff so preventing an endless loop cycling handoff from between two access points (see Andrus, pp [8]-[10], [27]). Therefore, combination of Shi and Andrus teach and disclose determination if the handoff has occurred in a predetermined repetition pattern then the determination section changes the criterion of the determination of the handoff.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Reference Nobuhiro (Japanese Publication number 07-030945) was provided by the Applicant's IDS and the examiner provides English translation version for convenience for the rejection below.

3. Claims 1-4, 6-10, 12, 14-15 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shi (6,320,855)** and further in view of **Andrus et al. (2003/0203735).**

Consider claim 1, (Currently Amended) Shi discloses a wireless communication terminal (**see Shi, the abstract**), comprising:

a measurement section that measures quality of a signal transmitted from a base station **(Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45)**;

a determination section that determines whether or not handoff is to be performed based on a measurement result of the measurement section and a criterion of the determination of the handoff **(Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65, an improved designed parameter M and N being introduced besides a conventional handoff parameter H)**; and

a handoff section that performs the handoff based on a determination result of the determination section (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45)**,

wherein the determination section determines whether the handoff section has performed a predetermined handoffs, and changes the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined handoffs (Shi, **col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 30-67, col 8 lines 1-65).**

Shi does not show a repetition pattern of handoff, but it is noticeable Shi discussed in conventional handoff systems about the unnecessary and unwanted idle handoff being initiated because of slight variations as a mobile device moves (**see col 5 lines 50-67, col 6 lines 1-15).** Andrus teaches an idle handoff system and method where Andrus discloses the determination of a handoff to a

better access point with significant high signal quality but not repeatedly handing off back and forth between access points in a repeating pattern continuously with a less significant signal quality (**see section [27]**), thus Andrus discloses a determination of handoff in response to a repetition pattern.

Since both Shi and Andrus teach method and system for idle handoff, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, and have repetition pattern, taught by Andrus, to improve the method and apparatus for idle handoff with neighbor channel, as discussed by Shi (**see Shi, col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27**).

Consider claim 7, (Currently Amended) Shi discloses a handoff determination method of a wireless communication terminal which performs wireless communication using each of a first communication method and a second communication method and enables to be in an idle state condition with both methods (**see Shi, the abstract**), the handoff determination method comprising the steps of:

measuring quality of a signal transmitted from a base station (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45**);

determining whether or not a handoff is to be performed based on a measurement result and a criterion of the determination of the handoff (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65, an improved designed parameter M and N being introduced besides a conventional handoff parameter H**);

performing the handoff based on a determination result (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45**);

changing the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined repetition pattern of handoffs (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65**).

Shi does not show a repetition pattern of handoff, but it is noticeable Shi discussed in conventional handoff systems about the unnecessary and unwanted idle handoff being initiated because of slight variations as a mobile device moves (**see col 5 lines 50-67, col 6 lines 1-15**). Andrus

teaches an idle handoff system and method where Andrus discloses the determination of a handoff to a better access point with significant high signal quality but not repeatedly handing off back and forth between access points in a repeating pattern continuously with a less significant signal quality (**see section [27]**), thus Andrus discloses a determination of handoff in response to a repetition pattern.

Since both Shi and Andrus teach method and system for idle handoff, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, and have repetition pattern, taught by Andrus, to improve the method and apparatus for idle handoff with neighbor channel, as discussed by Shi (**see col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27**).

Consider claim 17, (New) Shi teaches a wireless communication terminal comprising:

a measurement section that measures quality of a signal transmitted from a base station (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45**);

a determination section that determines whether or not handoff is to be performed based on a measurement result of the measurement section and a criterion of the determination of the handoff (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65, an improved designed parameter M and N being introduced besides a conventional handoff parameter H**);

a handoff section that performs the handoff based on a determination result of the determination section (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45**);

a detection section that detects a time period during which a pilot signal is acquired (Shi, **col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 30-67, col 8 lines 1-65**); and

a change section that when a handoff is performed so that an acquired pilot signal is switched to return to a pilot signal, changes the criterion of the determination of the handoff based on a detected time period during which a preceding pilot signal before returning to pilot signal is acquired (Shi, **col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 30-67, col 8 lines 1-65**).

Shi does not show same pilot signal is acquired, but it is noticeable Shi discussed in conventional handoff systems about the unnecessary and unwanted idle handoff being initiated because of slight variations as a mobile device moves (**see col 5 lines 50-67, col 6 lines 1-15**). Andrus

teaches an idle handoff system and method where Andrus discloses the determination of a handoff to a better access point with significant high signal quality but not repeatedly handing off back and forth between access points in a repeating pattern continuously to same signal with a less significant signal quality (**see Andrus, section [27]),** thus Andrus discloses a same pilot signal is acquired. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, and have same pilot signal is acquired taught by Andrus, to improve the method and apparatus for idle handoff with neighbor channel, as discussed by Shi (**see Shi, col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27).**

Consider claim 18, (New) Shi teaches a handoff determination method comprising:

measuring quality of a signal transmitted from a base station (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45**);

determining whether or not a handoff is to be performed based on a measurement result and a criterion of the determination of the handoff (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65, an improved designed parameter M and N being introduced besides a conventional handoff parameter H)**;

performing the handoff based on a determination result (**Shi, col 5 lines 15-20, 50-67, col 6 lines 1-45)**;

detecting a time period during which a pilot signal is acquired (Shi, **col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 30-67, col 8 lines 1-65);**

when a handoff is performed so that an acquired pilot signal is switched to return to a pilot signal, changing the criterion of the determination of the handoff based on a detected time period during which a preceding pilot signal before returning to the pilot signal is acquired (Shi, **col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 30-67, col 8 lines 1-65).**

Shi does not show same pilot signal is acquired, but it is noticeable Shi discussed in conventional handoff systems about the unnecessary and unwanted idle handoff being initiated because of slight variations as a mobile device moves (**see col 5 lines 50-67, col 6 lines 1-15).** Andrus teaches an idle handoff system and method where Andrus discloses the determination of a handoff to

a better access point with significant high signal quality but not repeatedly handing off back and forth between access points in a repeating pattern continuously to same signal with a less significant signal quality (**see Andrus, section [27]**), thus Andrus discloses a same pilot signal is acquired. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, and have same pilot signal is acquired taught by Andrus, to improve the method and apparatus for idle handoff with neighbor channel, as discussed by Shi (**see Shi, col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27**).

Consider claims 2, 8, (Original) The wireless communication terminal according to claims 1, 7, Shi, as modified by Andrus, further discloses wherein the determination section changes the criterion of the determination of the handoff when a predetermined repetition of two pilot signals is acquired (**Shi, col 7 lines 30-67, col 8 lines 1-65**).

Consider claims 3, 9, (Original) The wireless communication terminal according to claims 2, 8 Shi, as modified by Andrus, discloses wherein when qualities of the two pilot signals acquired repeatedly are equal to or greater than a predetermined value, the criterion of the determination of the handoff is changed (Andrus, **sections [27]-[28]**).

Consider claims 4, 10, (Original) The wireless communication terminal according to claims 1, 7, Shi, as modified by Andrus, further discloses:

a detection section that detects time during which a preceding pilot signal is acquired every time handoff is performed, wherein the determination section changes the criterion of the determination of the handoff based on the time detected by the detection section (**Shi, col 7 lines 5-65**).

Consider claims 6, 12, (Original) The wireless communication terminal according to any one of claims 1 to 5, or claims 7 to 11, Shi, as modified by Andrus, further discloses wherein the wireless communication terminal enables to be in an idle state condition with both methods of cdma2000 lx method and 1xEVDO method, and the determination section is used as section for determining a handoff of cdma2000 1x method (**Shi, col 6 lines 60-67, col 7 lines 1-30**).

Consider claim 14, (New) The wireless communication terminal according to claim 1, wherein the predetermined repetition pattern of handoffs is a return handoff (see Andrus, pp [8], [46], handoff back to a previous access point, thus return handoffs).

Consider claim 15, (New) The handoff determination method according to claim 7, wherein the predetermined repetition pattern of handoffs is a return handoff (see Andrus, pp [8], [46], handoff back to a previous access point, thus return handoffs).

4. **Claims 5 and 11 are** rejected under 35 U.S.C. 103(a) as being unpatentable over **Shi (6,320,855)** and further in view of **Rajkotia et al. (2004/0121774).**

Consider claim 5, (Previously Presented) Shi discloses a wireless communication terminal comprising:

a measurement section that measures quality of a signal transmitted from a base station (**col 5 lines 15-20, 50-67, col 6 lines 1-45**);

a determination section that determines whether or not handoff is to be performed based on a measurement result of the measurement section and a criterion of the determination of the handoff (**col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65, an improved designed parameter M and N being introduced besides a conventional handoff parameter H)**; and

a handoff section that performs the handoff based on a determination result of the determination section (**col 5 lines 15-20, 50-67, col 6 lines 1-45)**,

wherein the determination section determines whether or not the handoff is to be performed based selectively on either one of a value obtained by the measurement result of the measurement section predetermined period, and a value obtained by the measurement result of the measurement section through a predetermined number of measurement (**col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 5-67, col 8 lines 1-67, col 9 lines 1-45).**

Shi does not show the handoff is performed based selectively on either one of a value obtained by time averaging the measurement result or a value obtained by number averaging the measurement result, however, it is noticeable Shi teaches the mobile station monitors paging channels over periods

of time for determining if a handoff situation in consideration (**see col 5 lines 15-67, col 6 lines 1-15).** Rajkotia teaches method and system for handoff in a wireless network, where the handoff decision is made based on an average measurement of signal quality over a period of time to avoid short-term fluctuation of detected pilot signal strength levels (**see paragraph [76]),** thus Rajkotia discloses the handoff is performed based selectively on either one of a value obtained by time averaging the measurement result or a value obtained by number averaging the measurement result.

Since both Shi and Rajkotia teach method and system for handoff, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, and have he handoff is performed based selectively on either one of a value obtained by time averaging the measurement result or a value obtained by number averaging the measurement result, taught by Rajkotia, to improve the method and system discussed by Shi (**see col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27).**

Consider claim 11, (Previously Presented) Shi discloses a handoff determination method comprising the steps of:

measuring quality of a signal transmitted from a base station (Shi**, col 5 lines 15-20, 50-67, col 6 lines 1-45)**;

determining whether or not a handoff is to be performed based on a measurement result and a criterion of the determination of the handoff (Shi**, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65, an improved designed parameter M and N being introduced besides a conventional handoff parameter H)**; and

performing the handoff based on a determination result (Shi**, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 8 lines 50-65),**

wherein whether or not the handoff is to be performed is determined based selectively on either one of a value obtained by the measurement result of the measurement section for a predetermined period, and a value obtained by the measurement result of the measurement section through a predetermined number of measurement (Shi**, col 5 lines 15-20, 50-67, col 6 lines 1-45, col 7 lines 5-67, col 8 lines 1-67, col 9 lines 1-45).**

Shi does not show the handoff is performed based selectively on either one of a value obtained by time averaging the measurement result or a value obtained by number averaging the measurement result, however, it is noticeable Shi teaches the mobile station monitors paging channels over periods of time for determining if a handoff situation in consideration (Shi**, see col 5 lines 15-67, col 6 lines 1-15).** Rajkotia teaches method and system for handoff in a wireless network, where the handoff decision is made based on an average measurement of signal quality over a period of time to avoid short-term fluctuation of detected pilot signal strength levels (**see** Rajkotia**, paragraph [76]),** thus Rajkotia discloses the handoff is performed based selectively on either one of a value obtained by time averaging the measurement result or a value obtained by number averaging the measurement result.

Since both Shi and Rajkotia teach method and system for handoff, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, and have he handoff is performed based selectively on either one of a value obtained by time averaging the measurement result or a value obtained by number averaging the measurement result, taught by Rajkotia, to improve the method and system discussed by Shi (**see col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27).**

5. **Claims 13 and 16 are** rejected under 35 U.S.C. 103(a) as being unpatentable over **Shi (6,320,855)** in view of **Rajkotia et al. (2004/0121774)** and further in view of **Nobuhiro (Japanese Publication number 07-030945**).

Consider claim 13, (Previously Presented) The wireless communication terminal according to claim 5, Shi as modified by Rajkotia, teaches wherein the determination section determines which one of the values is used for determining whether or not the handoff is performed (**see paragraph [76]).**

Shi as modified by Rajkotia, does not show the values are based on a reception state of the wireless communication terminal. Nobuhiro teaches a system and method for channel changeover where the changeover is based on a mobile station's information such as a reception level (**see the abstract),** thus Nobuhiro discloses the values are based on a reception state of the wireless communication terminal.

Since Shi, Rajkotia and Nobuhiro teach handoff systems and methods, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Shi, modified by Rajkotia and have the values are based on a reception state of the wireless communication terminal, taught by Rajkotia, to improve the method and system discussed by Shi (**see col 1 lines 5-67, col 3 lines 15-67, col 6 lines 1-27).**

Consider claim 16, (New) The wireless communication terminal according to claim 13, Shi as modified by Rajkotia and Nobuhiro, teaches wherein the determination section determines which one of the values is used for determining whether or not the handoff is performed based on whether the wireless communication terminal is in an intermittently-receiving state (see Nobuhiro**,** pp [15]-[16], [20]-[21]).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUY C. HO whose telephone number is (571)270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huy C Ho/
Examiner, Art Unit 2617
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